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XIV. *Observations on the Manna Perficum :*  
 By John Fothergill, M. D. Licentiate of  
 the College of Physicians, London.

Read April 26.  
 1744; but here printed  
 with Additions.

IT does not appear very plain, from any thing that has occurred to me in the Writings of the elder *Greek* Physicians, that they were much, if at all, acquainted with any Substance that now goes under the Name of *Manna*. They had the Term, but applied it to a Subject very different from what we do at present. The ὑπόσσεσμα τῆς Λιβανώλης, or the *Mica thuris concussu elisæ*, the Bits broke off from the *Olibanum* in Carriage, was the Substance they knew by that Name.

If the *Arabians* did not first of all introduce some Kind of purging *Manna* into Practice, they at least render'd the Use of this Drug more common and extensive. Their Country afforded several Species of it; which being familiarly known, is, perhaps, the Reason why no Descriptions have been left sufficiently clear, whereby to distinguish them from each other. Whoever has consulted the *Arabian* Writers, or the best of their Commentators, will allow that their Accounts are defective.

That they had three Sorts of this Drug, distinguished by the Names of *Manna*, *Tereniabin*, and *Siracost*, is certain; but whether these are now known, or by what Appellations, has been very much disputed.

*Rawwolf*, in his Itinerary published by *Ray*, and *Tournefort*, in his Voyage to the *Levant*, have given the clearest Intimations of any Writers that I know of:

of: If to these we add *Clusius*, we have all that we are to expect of Certainty, amongst those who have mention'd it; they being Eye-witnesses of what they wrote: Yet the Descriptions of these are either so imperfect or unknown, that a very late Writer upon the *Materia Medica* (a), either not having seen or understood them, has fallen into a Mistake about the *Manna Arabum*, and his Authority may perhaps mislead others.

My worthy Friend *Peter Collinson*, having procur'd a Sort of *Manna* from a Gentleman at *Petersburgh*, under the Title of *Manna Persicum ex planta Al-Hagi Maurorum*, was pleas'd to favour me with a Specimen of it: I consulted the principal Writers on the *Materia Medica*; and, finding their Opinions to be frequently opposite, and their Accounts in general perplexed, I imagined it would not be unacceptable to the Curious, to have such a Description of this Species, as would probably make it clear, that we have one Kind of the *Manna Arabum* still extant, viz. the *Terniabin*, and prevent any future Mistakes about it.

The Specimen of *Manna* that now lies before me, appears, at first Sight, to be a dirty reddish brown colour'd mixed Mass; which, upon a nearer View, is found to consist of,

1. A great Number of globular, crystalline, almost pellucid Bodies, of a yellowish-white Colour, and different Sizes; the biggest not much exceeding

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\* Geoffroy *Traçtat. de Mat. Med.* Vol. II. p. 586, &c.

- a large Coriander-seed, or a very small Pea: They differ from Grains of Mastich, in being more upon the reddish Cast; but in Figure and Transparency it varies not much.
2. Some small Sticks like Prickles, and others like Footstalks of Leaves or Fruit.
  3. A few narrow-pointed firm small Leaves.
  4. A large Quantity of long reddish-colour'd Pods, of a sweetish gelatinous Taste, containing from one to six or seven hard, irregular, somewhat Kidney-like Seeds, which to the Taste are very acerb. And,
  5. Some Sand and Earth. Four Ounces of the *Manna*, dissolved in warm Water, left one Ounce or something more of these in the Filtre.

The Globules (N<sup>o</sup> 1.) are hard, and break between the Teeth like Sugar-candy; they are of a pleasant sweet Taste, with much less of the *Manna* Relish than the *Calabrian*; but with enough to discover to what Family this Substance belongs.

The Sticks, Leaves, Pods, &c. seem to be Parts of the Plant that produces the *Manna*. Some of the Seeds have been sown, and proved so fresh as to afford some Plants of the *Alhagi*.

About the Year 1537, when *Rawwolf* wrote his Itinerary, it appears, that large Quantities of this Kind of *Manna* were brought from *Persia* to *Aleppo*, where it was then known under the Name of *Trunschibil* or *Trunschibin*; a Corruption, doubtless,  
of

of the antient *Terenjabin*; or, as it ought to be wrote, according to *Deusingius* \*, *Terengjabin*.

*Rauwolf* informs us, that this Species of *Manna* was gather'd from the *Alhagi*; a Plant which is minutely described by *Tournefort* †, who also confirms the Account which *Rauwolf* had long before given, with the following Particulars :

“ It is chiefly (says he) about *Tauris*, a City in  
 “ *Persia*, that it is gather'd, under the Name of *Trun-*  
 “ *gibin* or *Terenjabin*, mention'd by *Avicenna* and  
 “ *Serapion* : Those Authors thought it fell upon  
 “ certain prickly Shrubs; whereas it is only the  
 “ nutritious Juice of the Plant.” — He adds, “ That,  
 “ during the great Heats, you perceive small Drops  
 “ of Honey upon the Leaves and Branches of  
 “ these Shrubs; these Drops harden, in Grains about  
 “ the Bigness of Coriander-seeds : They gather those  
 “ of the *Alhagi*, and make them into reddish Cakes  
 “ full of Dust and Leaves, which alter the Colour,  
 “ and lessen its Virtue. This *Manna* is much infe-  
 “ rior to the *Italian*. The ordinary Dose is from  
 “ 25 to 30 Drams.”

*Clusius* ‡ informs us, that the *Terniabin* of the modern *Arabs* is gather'd from a prickly Shrub, such as the *Alhagi* is described to be. *Avicenna* \*\*, according to his present Translation, tells us, that the

\* *Deusingius Traß. de Manna & Sacch.* p. 11.

† *Tournefort's Voyage to the Levant*, Vol. I. p. 247, 248.

‡ *Clus. Exotic.* Vol. II. p. 164.

\*\* *Avicen. Oper.*

Tom. I. p. 404.

*Tereniabin* falls *super Lapides*; but \* *Deusingius* says that it ought to be read, *super Albagi*; and that his Translators were led into this Mistake, from the Resemblance betwixt *Al-Hhagier* (the Word in the *Arabic* Text, and which signifies a kind of thorny Plant, such as the *Albagi* is said to be) to *Al-Hagio*.

It is therefore evident, that the *Manna Persicum*, now before us, is the *Tereniabin*, *Terenjabin*, *Terræjabin*, or more properly, the *Terengjabin*, of the old *Arabians*, and of *Clusius*; the *Trungibin*, or *Trunshibil*, of the later, of *Rauwolf* and *Tournefort*; very probably, the *Manna mastichina orientalis* of *Matthiolum* and *Bauhine*; as it is the *Mastichina* and *Alhagina* of *Geoffroy*; tho' this Author makes the *Tereniabin* a Species of *Liquid Manna* †, in Complaisance to his Countryman *Bellonius*; who, tho' in general a diligent Observer, yet, in this Case, was misled by the *Caloyers*, or Monks of *Mount Sinai*.

*Bellonius* says, in his Observations ‡, and more largely in his Treatise *de Arboribus perpetua Fronde virentibus*, that these *Caloyers* collect a kind of liquid *Manna*, which they call *Tereniabin*; that this Species was known in the Shops at *Cairo* by the same Name; and that this is the *Mel roscidum* of *Galen*, and the *Mel cedrinum* of *Hippocrates*.

I think it is very plain, that *Bellonius* was mistaken in the first Part of his Assertion, from what

\* *Tract. de Manna*, p. 19.  
Tom. II. p. 587.

† *Tract. de Mat. Med.*

‡ *Bellonii Observ. apud Clus.* p. 129.  
has

has already been advanced. The *Caloyers* told him, that they called it *Tereniabin*; and he takes it for granted, that it was the *Tereniabin* of the old *Arabians*, contrary to their own Accounts, supported by the Testimony of their Successors, who are known to vary as little as any People whatever from the Traditions and Customs of their Predecessors, and still retain a great many of their Appellations. For Proof of this, I need only refer to the Accounts which *Rauwolf*, *Tournefort*, and Dr. *Shaw*, give us of those People.

That this liquid *Manna* was the *Δροσόμελι*, *sen* 'Αερόμελι, of *Galen* \*; and the *Μέλι κέδρονον*, of *Hippocrates* †, (supposing there is no Mistake in the Text), seems very probable. The Description which *Galen* has left of the *Mel roscidum*, and the Manner of collecting it on *Mount Sinai* in his Time, tallies exactly with *Bellonius's* Account; and thus far, I believe, all Authors agree: But that the Virtues of *Manna* were known so early as in the Times of these Two Authors, will be difficult to prove.

*Galen* takes notice of this *Mel roscidum* more as a Curiosity, than a Medicine. He no-where, that I know of, mentions its Use, or describes its Qualities: He introduces the Account of it with a *Memini aliquando*, and says, that the *Mel roscidum* was rarely met with in his Country, but was gather'd at *Mount Sinai* every Year: And, indeed, from the Manner

\* *Galen. de Alem. Facult. L. III. c. 39. de Ulceribus, p. 876. Edit. Foessii.*

† *Hippocrat.*

in which it is spoken of by an old *Greek* Writer in *Athæneus*, as cited by *Salmasius*, it would seem, that it was only used for Pleasure, as an agreeable Sweet, *Melle ipso suavius*; and, probably, continued to be of no other Use. *Mesue* tells us\*, that *Galen* mixed *Manna* with *Scammony*. In the spurious Piece *de Dynamis* ascribed to *Galen*, *Scammony* is ordered to be mixed with Honey; but never once mentions *Manna* in any of his extant Writings. As *Galen* is known to be very minute in his Account of the *Materia Medica* of that Time, his Silence is a strong Argument against the Supposition, that even the *Mel roscidum* was in Pharmaceutic Use, much less any other Species of *Manna*.

If *Galen* was unacquainted with this Substance, it is very probable, that *Hippocrates* was so likewise; since a Drug that must have made a considerable Figure in his *Materia Medica*, would not have soon been struck off the List, or dropp'd into Oblivion and Disuse.

But how shall we get rid of the *Μέλι κέδρεον*; the Name sufficiently intimating what Substance was intended? Perhaps *Foesius*'s Suggestion may help us. He thinks, that the Words might have been read with a Comma intervening, whereby we should have had Two distinct well-known Substances, Honey, and Resin of the Cedar; Two Simples that were then, and continued long after, in familiar Use; instead of one, which he mentions no-where else, and seems to be unknown some Ages after.

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\* *Mesue de Simpl.* c. 8.



Upon the whole, I have not hitherto met with Evidence sufficient to induce me to believe, that either the *Mel roscidum*, or any Kind of *Manna*, was in common medical Use either with *Hippocrates* or *Galen*. *Aëturius* mentions it once \*, and, as I know of, only once: He makes it a Purgative, and to be somewhat stronger than *Cassia*.

It is now pretty generally known, that the *Manna's* in Use are not a *Mel aërium*, or Honey-Dew, as was long believed, but a *Succus proprius* issuing out of some particular Trees, at proper Seasons, and in some Climates only; and that, during the Summer's Heats, a great Number of Vegetables, in almost all the temperate Countries, afford a Juice somewhat akin to *Manna*, from whence the Bee collects and prepares her Honey. It may not, however, be amiss, nor very foreign to our Subject, to exhibit a short Account, how the *Manna Officinarum* is collected.

In *Calabria* and *Sicily*, in the hottest Part of the Summer-Months, the *Manna* ouzes out of the Leaves, and from the Bark of the Trunk, and larger Branches, of the *Fraxinus*, or *Calabrian* Ash. The *Ornus* likewise affords it, but from the Trunk and larger Branches only, and that chiefly from artificial Apertures; whereas it flows from the *Fraxinus* thro' every little Cranny, and bursts thro' the large Pores spontaneously.

What is got from different Parts of the Tree acquires different Names; the Trunks generally afford

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\* *Aëtuar. Method. Medend.* L. V. c. 8.

those large white Pieces to which we give the Name of flaky ; but the finest of all is such as is collected from artificial Incisions, in which little Straws, &c. are purposely placed in such a manner, as that the flowing Juice may concrete upon them, and form those long, white, cylindrical, perforated Pieces, which are so much valued.

This Juice is secreted in the largest Quantity, betwixt Noon and Evening. In the Night it is condens'd, if the Season is dry, otherwise the *Manna* is spoil'd : They scrape off the small with wooden Knives, early in the Morning, and gather the larger Flakes ; both which are afterwards dried upon clean Paper in the Sun, till they stick no longer to the Fingers ; and the different Sorts are then carefully pack'd up for Use and Exportation.

XV. *Cyanus Foliis radicalibus partim integris, partim pinnatis, Bractea Calycis ovali, Flore sulphureo ; per Albert. Haller, Prof. Anat. & Bot. Gottingenf. R. S. Ang. & Suec. S. descriptus.*

Vide TAB. IV.

Read April 26.  
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**R**ADIX perennis est, quam eruere nolui, ut parcerem plantæ, quæ semen nondum dedisset.

Folia ad terram conferta, varia : virentia omnia, & firmiuscula, cum aliqua, sed brevi & sparsa lanugine. Eorum alia simplicia sunt, longo petiolo, elliptica lanceolata